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ORIGINAL ARTICLES.

SWISS HEALTH STATIONS FOR CONSUMPTIVE CASES AND OTHER TUBERCULOUS SUBJECTS.

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(*Continued from vol. xvii., No. 4, pp. 155-179, October, 1923.*)

The chief Health Stations for tuberculous subjects in Eastern Switzerland are Davos and Arosa. Both of these are charming places and offer exceptional climatic conditions. They possess excellent sanatoria and other accommodation for patients and visitors, and at both there are medical advisers of recognized distinction in the treatment of tuberculosis. Davos and Arosa are also much frequented as delightful holiday resorts and centres for winter sports. These high mountain stations can now be reached at all times of the year and in great comfort by railway.

DAVOS.

Davos has a world-wide reputation as a Tuberculosis City of Healing. Its international service to mankind was greatly deranged by the Great War. During my recent visit to study post-war conditions, I found many evidences of active development. I was privileged to be present at the opening lecture given by the veteran Dr. Turban in connection with an International Medical Post-Graduate Summer School of Tuberculosis, which was largely attended, and will in all probability be an annual event. Through the kindness of Dr.

Edward Neumann I enjoyed the pleasure of several days' residence in his truly perfect Sanatorium Schatzalp, which not only has a wonderful situation, but has been planned, constructed, and equipped in accordance with the highest standards of up-to-date knowledge, and is now conducted in a manner which provides the best which modern methods can offer, and yet considers the comfort and happiness of every patient.

Davos is a centre where British patients speedily make themselves at home.[1] Since the time of John Addington Symonds there has always been an English Colony at Davos.[2] There is an English church, resident English chaplain, an English library, an English doctor, and most of the other medical advisers seem to speak English. Mr. W. G. Lockett is H.B.M. Consul for Davos and for the Canton of the Grisons, and is always ready to assist medical advisers in any way in his power. I take this opportunity of acknowledging my indebtedness to Mr. Lockett for his courtesy and kindness during my recent visit.[3]

It has seemed to me to be very desirable that a presentation of the chief points relating to the climate of Davos and the various factors determining the so-called cure as there conducted should be provided by a physician well acquainted with every point connected with the place, and having a wide experience of all classes of patients. I have been fortunate enough to obtain from my friend Dr. Neumann the following informing and thoroughly helpful communication. The accompanying illustrations have been prepared from photographs kindly provided by Dr. Neumann.

[1] *The Davos Courier*, published every week (price 35 cents each number, annual subscription for England 13 francs), not only contains records of local events, but gives a directory of the resident doctors in Davos, particulars regarding many of the sanatoria, a visitors' list, and much other information likely to be of service to medical advisers. There is also a well-equipped Bureau des Verkehrsvereins in Davos from whence information may be obtained.

[2] All medical advisers and patients visiting Davos should secure a copy of the second edition of "Our Life in the Swiss Highlands," by John Addington Symonds and his daughter Margaret, with illustrations in colour by J. Hardwicke Lewis, published by Adam and Charles Black in 1907. Visitors to Davos should also make a point of reading the autobiographical biography of John Addington Symonds, compiled from his papers and correspondence by his friend Horatio F. Brown, the second edition of which was issued by Smith, Elder and Co. in 1903.

[3] Mr. Lockett has written a number of informing booklets dealing with various aspects of life at Davos, and was responsible for the translation of the articles forming the comprehensive handbook, "Davos as a Health-Resort," which, although published as far back as 1906, contains much that is still of interest and service.

CHARACTERISTICS OF THE HIGH ALPINE CLIMATE AND CURE AT DAVOS.

COMMUNICATION FROM EDWARD C. NEUMANN,

M.D.,

Medical Director of the Sanatorium Schatzalp, Davos.

Davos, situated in an elevated valley among the mountains of the Canton of the Grisons at an altitude of from 5,000 to 6,000 feet (1,545 to 1,865 metres) above sea-level, was the first place in the High Alps to be developed as a health resort, especially for those suffering from tuberculosis in all its forms. The valley offers at the present time a very different picture from that of 1853, when Dr. Alexander Spengler arrived in it. Through his observations concerning the beneficial effects of the climate on natives who had become infected by tuberculosis whilst earning their living in the lowlands, and had then been obliged to return broken in health to their homes in the Alps, he became impressed with the possibilities of a high mountain resort in restoring the tuberculous. He noted also that amongst those living permanently in the Alpine climate tuberculosis was rarely met with. In 1860 and 1861 the first tuberculous patients came to Davos, then merely a farmers' village with little comfort to offer its guests. In 1865 a few plucky patients remained through the winter, and, having experienced the advantages of the plentiful sunshine and the dry, cold, still air, they spread the news, and soon Davos developed into a health station the fame of which became known everywhere, and to which patients and visitors resorted all the year round. In 1869 Sir Hermann Weber read a paper at the meeting of the Royal Medico-Chirurgical Society of London, in which he directed attention to the favourable results obtained by residence at a high altitude in cases of pulmonary tuberculosis. Sir T. Clifford Allbutt, Sir R. Douglas Powell, Dr. W. Ewart, and the late Dr. Theodore Williams also recorded their impressions regarding the surprisingly good results obtained in Davos. Patients continued to visit the place in increasing numbers up to 1914, when the Great War upset the regular flow of all things human in Europe. By this time Davos had changed from a small Alpine village to a town extending for two or three miles along the valley. The place had undergone a marked development in providing for the needs of two very different classes of visitors. Some came to Davos for the sake of their health, and an ever-increasing number of others sought this mountain resort in order to enjoy the winter sports. In order to maintain a quiet and undisturbed life for their consumptive patients the doctors of Davos did their utmost to build sanatoria suitable for the

scientifically directed treatment of tuberculosis in all its forms, and these new buildings were placed well outside the now overbuilt area of the town, nearer to the widespread forests that cover the slopes of the Davos valley. In 1889 Dr. K. Turban was able to open the first sanatorium in Davos-Platz, and ten years later provided statistical evidence showing that the results obtained by the combined effects of the Alpine climate and careful sanatorium treatment far surpassed any obtained otherwise. One-half of his patients were, according to the Turban-Gerhardt classification, in the second stage of consumption, and a quarter belonged to the first stage and a quarter to the third stage. He

DAVOS: GENERAL VIEW.

The photograph gives a general view of Davos-Platz and Davos-Dorf looking up the valley. The spire of the old church is seen on the right. The Schatzalp Sanatorium is indicated high up on the left.

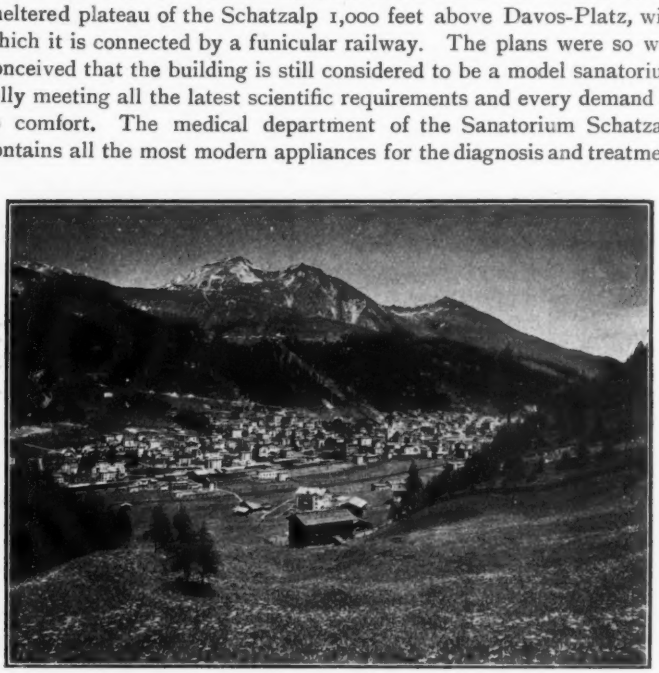
claimed that 66·1 per cent. of all these cases were restored in the sense of Brehmer's absolute or relative cure. Of these cases of arrest 99·1 per cent. were cases of the first, 73·2 per cent. of the second, and 23·6 per cent. of the third stage of tuberculosis of the lungs. Such results are due not only to the effect of climate, for the influence of this alone is not sufficient; the bare fact of living at a high altitude does not cure a patient. Anyone wishing to obtain arrest of tuberculosis must not only live in an appropriate climate, but must lead a life of which every moment of the day's twenty-four hours is subject to the one object of getting cured as quickly as possible. It is Dr. K. Turban's great merit that he showed what splendid and lasting results can

be obtained through a well-regulated management of the daily life of a patient in a sanatorium under the wonderful climatic influence of the High Alps. Dr. Turban's practical teaching changed the aspect of Davos, and his example was largely followed. On the completion of the twenty-fifth year of his residence at Davos he was given the freedom of the town which he had done so much to develop. Sanatoria for private patients and also sanatoria under philanthropic and other public bodies were built in increasing numbers; all of the new buildings were erected away from the lower parts of the valley on the slopes facing south, so as to procure the greatest amount of sun-

DAVOS: A WINTER VIEW.
The photograph was taken by moonlight from the Schatzalp.

shine and quiet for the patients. Several Cantons of Switzerland preferred to erect their own sanatoria in the well-sheltered Davos valley so as to secure for their poorer patients the benefits of a high altitude climate, although the cost is considerably greater than in the lowlands. Some Cantons have sanatoria both in the lowlands and at a high altitude, with all patients chosen by the same doctors, and it has been found that the results obtained proved to be more favourable and of greater durability in those patients who had been at a high altitude than in those "cured" in the lowlands. The sanatoria first founded in Davos were not built for the well-to-do classes, but for patients assisted by the State; in 1896 Basle opened its sanatorium, then in 1901 the Dutch, and in the same year the Germans, established their sanatoria

for poor patients. Later several sanatoria were developed for paying patients : in 1898 the Davos-Dorf Sanatorium, now under Dr. Biland, and in 1900 one of the finest sanatoria in the world was erected on the sheltered plateau of the Schatzalp 1,000 feet above Davos-Platz, with which it is connected by a funicular railway. The plans were so well conceived that the building is still considered to be a model sanatorium fully meeting all the latest scientific requirements and every demand as to comfort. The medical department of the Sanatorium Schatzalp contains all the most modern appliances for the diagnosis and treatment



DAVOS : GENERAL VIEW IN SUMMER.

The portion shown is Davos-Platz. The Schatzalp Sanatorium is seen at the upper part of the picture with the funicular railway. The Schiahorn is in the background.

of tuberculosis in all its manifold forms and in every stage of the disease. The writer of this communication has from the first been its medical superintendent. The success of the sanatorium treatment in the High Alps became so evident that several hotels in the old village were transformed into sanatoria and became known as the Sanatorium Schweizerhof, the Sanatorium du Midi, and the Sanatorium Kaiserhof. The rest-cure in the fresh air and with sunlight was recognized as of such importance that the southern front of practically every hotel and pension and most of the houses in the large valley of Davos became transformed by the addition of large and well-protected cure-galleries on their south fronts. The tendency to get more and more away from

the overcrowded village has shown itself in the sites chosen for the popular sanatoria, and such establishments as the Sanatorium Schatzalp, and it had developed in the same direction when the Sanatorium Clavadel (now the property of the Canton of Zürich), the Waldsanatorium, and the Beausite and Queen Alexandra Sanatoria (now the property of the Cantons of Thurgau and Schaffhausen) were constructed, whilst the sanatorium of Davos-Platz and the establishment conducted by Dr. Wolfer kept closer to the town. In Davos-Dorf the old hotel Seehof was also transformed into a sanatorium, and new buildings arose above the village for the Beausite and Guardaval Sanatoria. The out-

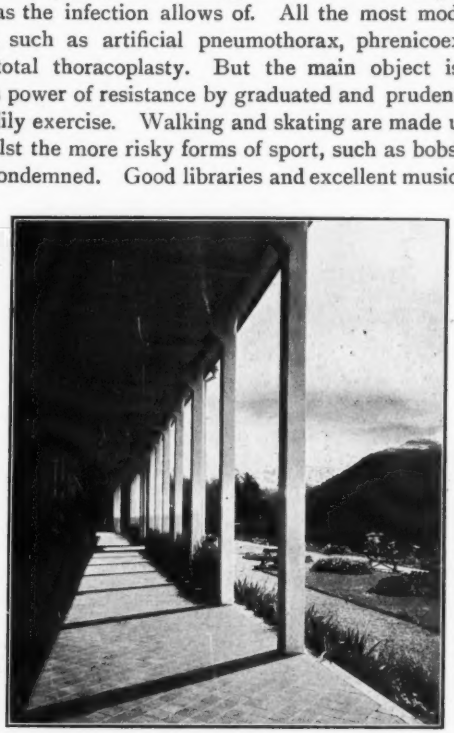
DAVOS: THE SCHATZALP SANATORIUM.

The south front of the sanatorium is shown with a portion of the long gallery, patients' balconies, and gardens.

break of war sadly interrupted the rapid development of this high Alpine health resort. Hard times came for Davos. The Queen Alexandra Sanatorium closed its doors and unfortunately they could never again be opened to British subjects. The funds obtained by the disposal of the building are now being used to provide residence for British patients in the "English Sanatorium," which has been established in the modernized Hotel Frei. The patients are under the care of Dr. Bill, the resident English physician in Davos-Platz, and Dr. F. Buol.

Each of the sanatoria in Davos is under the superintendence of a medical man who has specialized in the treatment of tuberculosis in all its forms, and who with the help of assistants can provide for each

patient the treatment he individually needs. It is the object of every sanatorium to help its patients to regain their health as quickly and as thoroughly as the infection allows of. All the most modern methods are applied, such as artificial pneumothorax, phrenicoexairesis, and partial or total thoracoplasty. But the main object is to develop the patient's power of resistance by graduated and prudently increased doses of bodily exercise. Walking and skating are made use of mainly for this, whilst the more risky forms of sport, such as bobsleighing and skiing, are condemned. Good libraries and excellent music help to keep

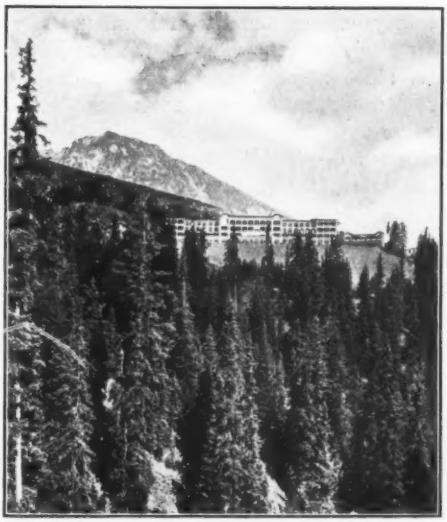


DAVOS: THE SCHATZALP SANATORIUM.
A special feature of the sanatorium is the fine front gallery open to the south and overlooking the Davos Valley.

the patient happy, interested, and content, but nothing mere man can offer comes up to the spirit of repose induced by the grandeur and ever-inspiring beauty Nature offers in the wonderful forms and colours of the surrounding landscape.

The prices now prevailing at Davos for a good room, including medical routine treatment and nursing, food, heating, light, baths, etc., range from 22 to 30 Swiss francs a day in the first-class sanatoria. Patients must, however, reckon upon a certain amount of extras, such as necessitated by personal laundry, tips, beverages, medicines, X-ray photographs, etc. Clothing should be of the ordinary winter quality; a short fur coat is useful, and so are loose woollen gloves and a cap

that protects the ears. A couple of warm rugs should always be provided, and also good thick boots for walking. In Davos everything needed can be obtained. The journey from England out to Davos has now become an easy enterprise; the best way is to travel direct to Basle, and from there to Landquart, where a change is made into the narrow-gauge electric railway that extends to Davos-Platz. It is better not to break the journey, but to travel straight through. The Swiss customs are generally most obliging. Heavy luggage should be registered to Davos-Platz, but must be personally seen through the Swiss customs at Basle. Information regarding travel routes can



DAVOS: GENERAL VIEW OF THE SCHATZALP SANATORIUM.
The sanatorium is seen on an open plateau of the Schatzalp above Davos-Platz with forest adjacent and the Schiahorn in the background.

always be obtained on application to the London offices of the Swiss Federal Railway, at 11B, Regent Street, W. 1, and the various medical superintendents of the sanatoria in Davos are ever ready to give any information which their medical confrères in England or elsewhere may desire.

If a study is made of a good map of the Swiss Alps, one will discover Davos near the eastern frontier as a valley running due north-east to south-west; and this valley is encircled on all sides by a series of high mountain chains affording great protection from wind. They not only break the force of the wind, but also by cooling the air, as it

reaches their cold summits, lead to a condensation of the moisture it bears and thus to "rain off" before proceeding farther, so leaving but a very small part of Atlantic or Mediterranean moisture to reach the centre of the high plateau on which Davos valley is situated at an altitude of 1,500–1,900 metres. The valley is well protected, especially towards the south and south-west, so that the warmer air-currents that develop in spring cannot reach it so soon, thus allowing the snow that covers its slopes to remain well into April; snow that has been lying since the preceding October, or at latest November, provides the surest protection against dust one could wish for. Davos has all the advantages of high altitude in general and several purely local ones added to them. It naturally has a low barometrical pressure, very slight clouding, and extremely dry atmosphere, intense insolation, remarkable radiation, and is blessed by an extraordinary number of calm days. There is in every valley a predominant wind, and Davos has the rare advantage that the valley wind runs from its highest points in the north-east along the base of the valley to the south-west, so striking only the northern side of the dwelling-houses and leaving the southern side, which is the one on which the patients rest in their cure-galleries, in absolute shelter. This most important fact makes it easy to carry out the open-air cure and heliotherapy without the slightest discomfort from wind. Davos is further an exceptionally well-proportioned valley as to length, width, and depth. It is broad enough to let the sun well into it: even on the shortest day the sun shines for from five to six hours, with no impertinent peaks to make it have an extra sunrise and sunset in the middle of its daily run, such as happens in valleys that are too deeply sunk in between high cliffs. Its good proportions allow of beautiful views over a wide expanse of Alpine giants in all the grandeur of their linear variations, and this especially so when viewed from such an elevation as the Schatzalp, which dominates the whole Davos valley from its terrace a good thousand feet above the town: such a view in its constant change of colour and light is a psychological asset that cannot be too highly valued. The Alpine beauty and grandeur of Davos will be doubly appreciated by all who remember the monotony of the deep-delved, forest-clad valleys of the lower mountains and plains with their depressing lack of outlook. The Davos valley is one and a half kilometres broad, and so has no cross winds to contend against, but the daily valley wind runs regularly from the north to the south, so preventing stagnation of the air, which might allow smoke and bad air to accumulate above or the formation of fog. Davos is practically free from fogs: the bottom of the valley is broad enough to be well warmed by the sun's rays, and this warmth rises upwards and blows off the mists that creep into the valley in bad weather, thins them out, and keeps the lowest clouds at a good and

respectable distance, or drives them to shed their burden up amongst the woods of the side valleys.

The low barometric pressure is a physiological stimulant of justly recognized value—one of the most important factors of the climate of all high-altitude stations. The phenomena of insolation and radiation are remarkable for their greater intensity, better quality (greater richness in short-wave radiation), and the evenness in their annual variations.

We may with a good conscience proclaim that in Davos, with but very few exceptions, there is hardly an hour during which a patient cannot live in the open air without discomfort, and really does do it if he takes his cure seriously. This possibility of living in the open air day and night with no discomfort is a valuable gain in itself, and would make of Davos an especially favoured climatic station, even if all the rest of the qualities of the high Alpine air had not so many further factors in it that stimulate the whole of our system, and so place it above that of the plains or lower hills.

THE DAVOS RESEARCH INSTITUTE FOR ALPINE PHYSIOLOGY AND THE STUDY OF TUBERCULOSIS.

During my visit to Davos I was enabled to inspect the new Research Institute, accompanied by Dr. Buol and Mr. W. G. Lockett. Professor A. Loewy, the Director, not only showed me the chief features of his excellent laboratories, but has also kindly supplied the following particulars, and has provided a photograph from which the accompanying illustration has been prepared:

The Institute has been founded under the auspices of the medical associations of Davos, Arosa, the Canton of Graubünden and the Engadine, the Swiss associations of Natural Philosophy, Balneology, and Climatology, the Swiss Red Cross, and the civic authorities of Davos Commune. The Institute consists of various sections—the Physiological Department is under the direction of Professor A. Loewy, who for long was associated with Professor Zuntz of Zurich in his researches on respiratory problems. Arrangements have also been made for the establishment of Bacteriological, Chemical, Pathological, Radiological, and other departments. The Institute contains twenty laboratories and rooms, is well fitted up for the conduct of investigations relating to respiratory gas analyses, blood tests, physical spectrum, measurements, micro-photography, X-ray work, experiments on animals, etc. There are also extensive reference libraries, etc. The Institute is conducted by a Board of Directors composed of nine members, of whom five must be medicals or doctors of one of the exact sciences. The staff of research workers consists of professors from the various Swiss universities, also other suitable men and women trained to undertake

scientific investigations. The subjects to be submitted to inquiry will be approved by representative committees and the directors of the various departments. From time to time, it is hoped, the results of the work carried out in the Institute will be published. It is interesting to note that the Meteorological Observatory at Davos, which is under the direction of Professor C. Dorno, will work in close association with the Institute. The principal aim of the Institute will be to throw new

THE DAVOS RESEARCH INSTITUTE FOR ALPINE PHYSIOLOGY AND THE STUDY OF TUBERCULOSIS.

light on the problems of tuberculosis by testing all the newest physical, climatic, and other methods of treatment, examining all suggestive diagnostic tests and other prophylactic and therapeutic procedures. Students of tuberculosis and medical advisers from Britain and other lands will be welcomed at the Institute. It is hoped that it may be possible to arrange for free residence for research workers from some of the "weaker" countries. It is expected that many sympathizers with the aims and work of the Institute will be ready to provide the

necessary financial support. Further particulars may be obtained on application to the Secretary of the Institute, Davos-Platz, Switzerland, and British medicals and others desiring to undertake research work will be offered all possible facilities.

THE QUEEN ALEXANDRA SANATORIUM FUND.

Reference must be made to the facilities available for assisting needy tuberculous British patients. The Queen Alexandra Sanatorium at Davos was opened for such cases in 1909, and for several years accomplished notable service for many men and women. But the Great War upset all plans and purposes and led to the sale of the sanatorium in 1922 to the Cantons of Thurgau and Schaffhausen for a sum which, after clearing all outstanding liabilities, left a residue of over £35,000, which has been invested and now provides a fund out of which a grant of about £1 8s. a week is made towards meeting the cost of residence of each of the twenty-seven patients for which accommodation is at present available. The fund also provides free medical attendance, nursing, supply of medicines, and bacteriological examinations. (The weekly inclusive expenditure left to be incurred by an assisted patient is estimated at about £2 10s.) Assisted patients are sent to the Hotel Frei, which has recently been modernized, additional balconies built, and is now known as the English Sanatorium. Drs. A. F. Bill and F. Buol are the visiting physicians.[1]

AROSA.

Arosa is known as "The Jewel of the Alps," and certainly among Swiss health stations it occupies a unique position. Not only is it a particularly desirable centre for tuberculous subjects, but it is also a delightful holiday resort and a glorious place for winter sports.[2] Arosa lies on an undulating plateau and southern slopes in a remarkable basin surrounded by impressive mountains, and having several beautiful little lakes, one of which is much used in summer for bathing. There are a number of hotels and pensions, an English church, library, and centres for social intercourse, and many opportunities for educational work,

[1] A Report of the Queen Alexandra Sanatorium Fund for 1922-23 has recently been issued, and a copy of this, together with full particulars regarding the admission of patients, may be obtained by medical advisers on application to D. Vesey, Esq., Hon. Secretary to the Council, 3, Camp View, Wimbledon Common, London, S.W. 19, or the Local Secretary, C. Healy, Esq., Hotel Frei, Davos-Platz, Switzerland.

[2] There is an excellent Kur- and Verkehrsverein at Arosa, from which illustrated booklets, map, directory, and all necessary information can be obtained. Special reference may be made to an excellent illustrated manual, "Where the World Ends: A Description of Arosa as a Centre for Summer Holidays or Winter Sports, and as a Health Resort for Convalescents and Invalids," by A. A. H. Price 3s.

sport, and amusements. Arosa is essentially a sanatorium station. Through the kind thought of my friend Dr. Amrein I was enabled to spend several days in Sanatorium Altein, of which he is the Medical Director. This sanatorium is one of the most perfectly constructed and completely equipped of modern institutions for the treatment of tuberculosis. Some of the chief features of this palatial place are indicated in the accompanying illustrations. Dr. Amrein speaks English fluently and is well acquainted with English ways and wants.[1] At my request Dr. Amrein has prepared the following statement, which medical advisers desiring to visit Arosa or to send patients there will appreciate.

CHARACTERISTICS OF THE HIGH-ALTITUDE CLIMATE AND TREATMENT AT AROSA.

By O. AMREIN,

M.D.,

Medical Superintendent of the Sanatorium Altein, Arosa.

We have to regard tuberculosis as a constitutional disease, and if we look at its course in cases of pulmonary or other tuberculosis we see that it ought to be divided into three stages of development: (1) The primary stage, generally arising in childhood, when the regional lymphatic glands become involved immediately after the primary focus has been infected. This is followed by involvement of submaxillary, intestinal, and cervical glands; and in the first line as regarding pulmonary tuberculosis, the bronchial glands generally following the inhalation of material charged with tubercle bacilli. (2) The secondary stage, that of spreading out beyond the affected glands, by the lymph-vessels, the blood-vessels, and the bronchial tubes. (3) The tertiary stage is when the real focal lesions develop (tuberculosis of bones, joints, peritoneum)—surgical tuberculosis; and tuberculous affection of the lung-tissue—pulmonary tuberculosis. The further course of tuberculous disease in any stage is dependent upon the nature of the individual and constitutional reactions (biological and immunisatory) on which depend powers of resistance against tuberculous infection. We all hope and expect that the specific treatment of tuberculosis by tuberculin, sera, and vaccines will become more and more efficacious. But no specific remedy will ever be able to heal really badly affected tuberculous patients all of a sudden. The chief points in the treatment of tuberculosis will always depend on the general vigour of the patient, the raising of bodily resistance power, and the increase of fighting

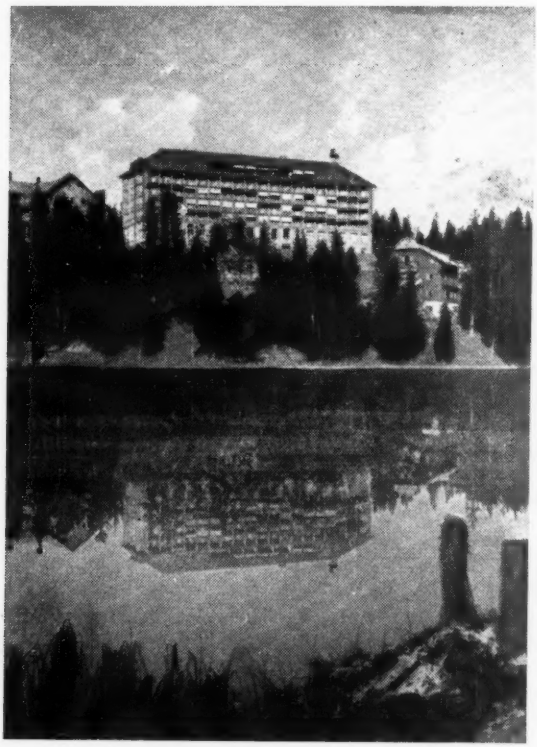
[1] Dr. Amrein has recently issued a new edition of his admirable work on "Lungen Tuberkulose," and has also just issued an informing and suggestive manual in English giving directions helpful to medical advisers and patients desirous of practical guidance in regard to the details of treatment at such a high Alpine station as Arosa.

AROSA : GENERAL VIEW.

The illustration gives a good view of the portion of Arosa situated near the Ober-See. The Sanatorium Altein is shown in the middle of the left half of the picture. Arosa, by means of the new Coire-Arosa Electric Railway, is only one and a half hours' journey from Coire, which can be readily reached from all parts of Europe.

powers. In all this high altitudes will ever be of the very greatest importance in treating cases of pulmonary and surgical tuberculosis.

Up to about 1890 Arosa was an almost unknown little Swiss village. During recent years it has developed rapidly, and has now become a world-known Alpine health resort. It shows all the chief properties

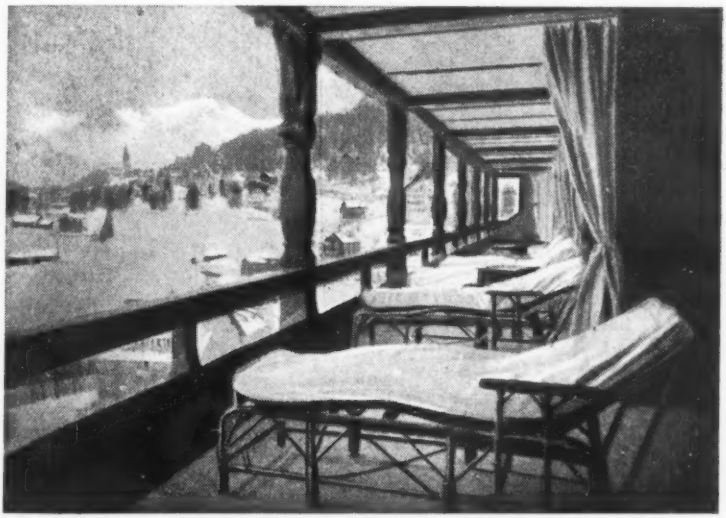


AROSA: THE SANATORIUM ALTEIN.

The Medical Director is Dr. O. Amrein and Dr. H. Heinz is the Chief Resident Physician. The Managing Director is Mr. P. Wieland. The sanatorium is completely equipped with up-to-date operating theatre, solarium for heliotherapy, X-ray and hydrotherapy department, quartz lamp outfit, and all rooms are provided with electric wires for listening-in, etc. There is accommodation for 100 patients. In the foreground of the above picture and below the sanatorium is the Unter-See, used for boating and bathing.

of the high-altitude climate: low barometric pressure (the partial pressure of oxygen is diminished); dryness and purity of the air; low temperature of the air (the air-minimum never becomes too low, there is always an equal cold temperature in winter and no heat in summer);

large amount of sunshine (especially efficacious on account of the dry and pure air and the intensity of the warm sun rays and of the light rays). The best known physiological effects caused by the above-mentioned meteorological conditions are augmentation of the red blood-corpuscles, the lymphocytes, and the large mononuclear cells; diminution of the granular leucocytes and of the total amount of the leucocytes; and increase in the viscosity of the blood. On account of the diminution of the pressure of oxygen the respiration becomes slower and deeper, the circulation is improved, the blood-pressure is not altered as a rule, and the circumference of the chest is increased. All these facts



AROSA: GENERAL RESTING GALLERY AT THE SANATORIUM ALTEIN.
In the distance is seen the church and village of Arosa, with parts of the surrounding mountains.

explain the unrivalled benefit which the whole organism derives from residence at the high altitudes, and the particularly favourable results of treatment in cases of pulmonary tuberculosis, as testified by statistics published by Theodore Williams, Egger, Turban, Ruge, Amrein, etc., and of surgical tuberculosis, as evidenced by results of heliotherapy as recorded by Bernhard, Rollier, etc. It may be repeated here, too, that fever and a tendency to hæmorrhages do not necessarily contra-indicate entry on a "cure" at such a high station as Arosa. Moreover, it should be realized that treatment can be started at any time of the year, as the necessary meteorological properties are always present, and

at all times are superior to those existing at stations in the lowlands which are often visited at the erroneously dreaded time of the snow-melting.

Arosa, besides the climatic characteristics mentioned above, possesses some special advantages. Being situated at a height of nearly 7,000 feet, its climate is especially bracing and tonic. But although placed at a higher level than other Alpine health resorts, the wealth of pine-woods does much to regulate the temperature of the air; indeed, cold is not felt more here than elsewhere in the winter, and there is considerably less heat experienced in the summer. The pine-

AROSA: A ROOM IN THE SANATORIUM ALTEIN.

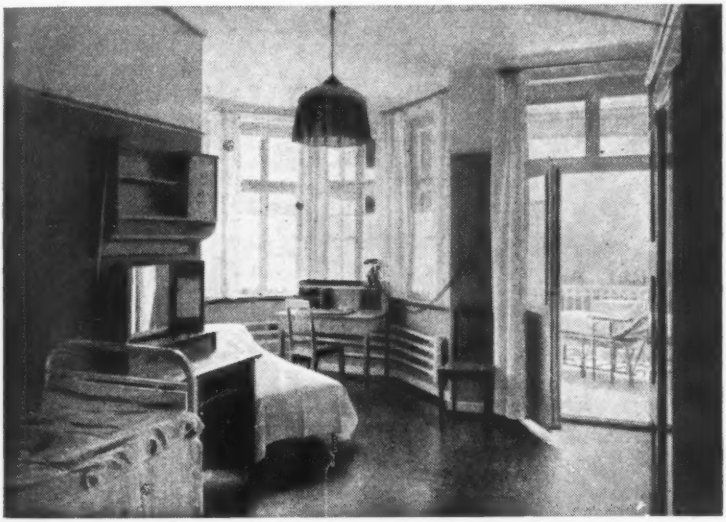
The illustration indicates the hygienic arrangements: lavatory fittings, radiator, electrical equipment, etc. The room opens on the left to the sleeping gallery, adjacent is private bath-room, etc.

woods protect Arosa from dust in summer, and being surrounded by mountains on the north, the place is well protected from the north wind. Arosa has very little wind (one of the worst of enemies for lung patients). All the hotels and pensions and sanatoria are placed separately on hilly ground, and it should be noted that the hilly configuration of the land renders over-building impossible.

Arosa cannot, fortunately, develop into a towny and crowded place. Each house stands among pine-woods. The woods are everywhere close at hand, and there are plenty of easy walks on the level in the

large park-woods which surround the health resort. The situation on sloping hills provides for abundant insolation and rapid snow-melting. No motor-cars are allowed to enter the village-town; and from the end of October or beginning of November until the end of April or May the snow-cover prevents the possibility of any dust. There are, of course, no factories or other agents which foul the air of most places where men have to dwell.

Arosa is especially indicated for the treatment of constitutionally weak and delicate children, particularly such as are the subjects of tuberculosis of the bronchial glands and those in the early stages



AROSA: A PATIENT'S CORNER ROOM IN THE SANATORIUM ALTEIN.

Each room in the sanatorium is provided with sound-proof walls and floor, hot and cold water, radiators, etc. Through the doorway the open-air gallery can be seen.

of pulmonary tuberculosis. Arosa can also be very helpful in restoring even moderately advanced cases, not showing a permanent pulse-rate higher than 120 and temperature above 101·5° and with not too great destruction of tissues. Arosa is also specially beneficial in such cases as convalescence after pneumonia, influenza, and pleural effusions. The following types of pulmonary tuberculosis are contra-indicated for Arosa: Advanced cases with a permanent pulse of 130 and more and persistent temperature of 101·5° F. and higher, extensive involvement of larynx, kidneys, and intestines, emphysema, non-compensated valvular

lesions of the heart, marked arteriosclerosis, diabetes, gout, anæmia and psycho-neurosis. Cases of surgical tuberculosis, tuberculosis of bones, joints, peritoneum, etc., when treated with heliotherapy give splendid results, and the chief sanatoria at Arosa have their own special installations (solaria, etc.) for carrying out this treatment.

THE USE OF X-RAYS IN THE DIFFERENTIAL DIAGNOSIS OF PULMONARY TUBERCULOSIS.[1]

By HOMER L. SAMPSON,

Roentgenographer to the Trudeau Sanatorium, Saranac Lake, N.Y.

The subject of "Plate Analysis, with Points on Differential Diagnosis in Pulmonary Tuberculosis," has been so much written on that it seems impossible for me to present anything new. A phase of it, however, which has interested me is the necessity for illustrating papers or addresses of this nature. To this end I have gathered the series of plates shown herewith, and embracing many interesting features for interpretation.

Obviously an analysis of roentgenograms lies in one's ability to understand the reasons for normal or abnormal shadows seen on the film or plate. With this in view, one must necessarily do his best to acquaint himself with roentgenograms of the theoretically normal parts under consideration. It is true that the theoretically normal in the case of the lungs may vary within wide limits; however, that should not deter us in attempting to standardize such a normal, bearing in mind that time and the accumulation of knowledge may tear down our previous concepts. Realizing the above possibilities as applied to the normal and abnormal lung, let us consider some concepts we have been employing in an attempt to standardize plate analysis.

If we roentgenograph the inflated lungs, say, of a guinea-pig or rabbit after removal from the chest, and are fortunate in having the vascular system retain its blood, we get a roentgenogram of a pair of lungs not unlike that of a human being—*i.e.*, two fields traversed by many linear markings radiating from two central points. That all

[1] Substance of an address delivered before the New York City Tuberculosis Conference. We are indebted to the courtesy and kindness of Dr. G. J. Drolet, Editor of the *New York Tuberculosis Association, Inc., Bulletin*, 10, East Thirty-ninth Street, New York City, for permission to reproduce this important article and for the loan of the blocks, from which the accompanying illustrations have been prepared.—Editor, *B.J.T.*

of this arborization is the result of shadows cast by the pulmonary systems—viz., vascular, bronchial, and lymph—is probably accepted by all. That one system, the vascular, contributes mostly to these shadows I think can be demonstrated. It is also quite probable that the bronchial "tree" plays an important part, but ordinarily it is very difficult to identify. The lymph channels also go unrecognized as such.

These "trees" or linear markings start from a root, and continue peripherally in a more or less uninterrupted fashion until the periphery is almost reached, becoming more delicate in consequence of their diminishing size (calibre), and resembling very much the silhouette of a young leafless sapling. Any gross interference with this linear appearance obviously would suggest anatomical abnormality or a pathological change in the lung.

What may we see in this theoretically normal lung? At the root a density or two, or possibly in the lung field a shadow or two of a similar character, only usually smaller, or a localized increase in the shadow-producing value of some of the linear markings. The question immediately arises, How numerous can these densities or the stage of exaggeration of the linear markings become before we can regard them as evidence of past or present pulmonary disease? Truly, no line can be drawn in this respect; however, may I present for your consideration one or two ideas in this direction—namely, the division of roentgenograms into the following groups: first, the theoretically normal; second, the doubtful; and, third, the positive.

The positive group I mention reservedly, realizing that diagnosis does not begin and end with the roentgenogram, as this decision should be made together with all clinical evidence, even though the plate may be the deciding factor.

Normal Lung.—Under this heading we would expect to find a roentgenogram void of any abnormal densities. This probably rarely exists; hence, may we not standardize this "normal" as having one or a few abnormal densities at the root, with possibly an occasional density in the parenchymal field?

Doubtful Group.—This group would embrace plates in which we see one or more of the following: More numerous densities, the root shadow more pronounced, a general haze in a portion of the pulmonary field, a tenting or peaking of the diaphragm, a secondary shadow in the extreme apex immediately under the second rib posteriorly and referred to as a pleural cap, and, finally, a slight localized or general accentuation of the pulmonary markings.

Positive Group.—Obviously this group includes anything in excess of the foregoing groups—namely, coalescing of isolated densities, blotchy shadows, fans, mottling, speckling, gross exaggeration of the

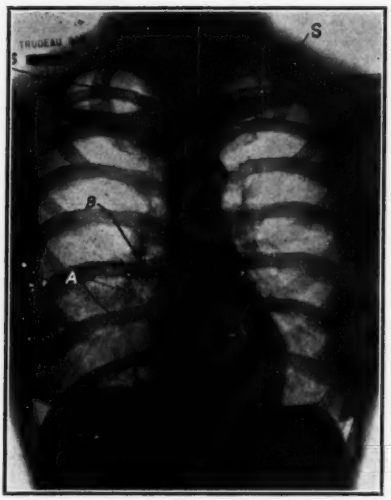


FIG. 1.—THEORETICALLY NORMAL.

One or two isolated densities at each root. Note the shadow of the sterno-cleido-mastoid muscle at *S*, right side. Left muscle margin not seen, but the haziness is present. *A*, arterial tree. *B*, descending bronchus. No small densities (tubercles) could be seen in the parenchymal field.

FIG. 2.—DOUBTFUL GROUP.

Right apex reveals (*I* ?) slight intrapulmon clouding—questionable tuberculous infiltrati This may possibly be caused by sterno-cleid mastoid muscle. *T*, definite densities (tuberc along the paravertebral and first (*I*, *S*) trun Easily seen stereographically. Later the pati developed tuberculous broncho-pneumonia ri upper lobe. Positive sputum.

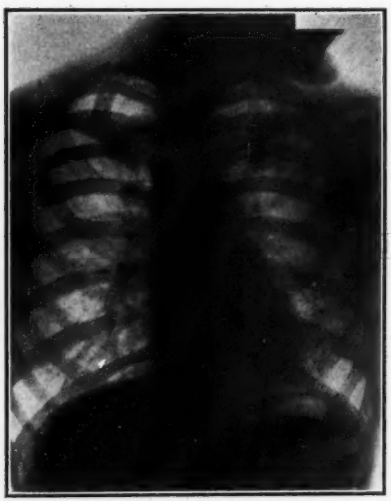


FIG. 3.—POSITIVE GROUP.

Diffuse tuberculous infiltration throughout left upper lobe. Many tubercles and accompanying changes to be seen. Sputum positive.

FIG. 4.—SAME AS FIG. 3, FIVE YEARS LAT

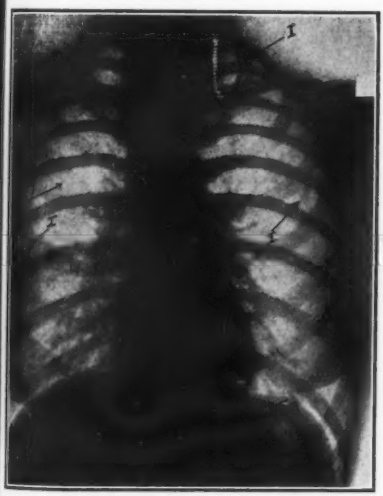
A, solid linear shadows are descending arte trees. *B*, linear area of rarefaction descend main bronchus. *T*, remains of previous tu culous infiltration. Stereographically, films veal definite tubercles remaining, and still s tuberculous infiltration present. Films are proaching the doubtful group. These cha almost impossible to reproduce, but easily stereographically.

FIG. 5.—EARLY POSITIVE GROUP.

definite intrapulmonary cloudiness, right lung, with small densities (tubercles) along the paravertebral trunk plainly seen stereographically. Later films revealed definite increase of tuberculosis, right and left upper lobes. Positive sputum.

FIG. 6.—EARLY POSITIVE GROUP.

Areas of infiltration at *I* will probably be difficult to see in reproduction, but easily made out in stereographic films. The localized cloudiness in the left apex apparently not due to sterno-cleido-mastoid muscle. Tuberculosis suspected clinically.



G. 7.—EARLY POSITIVE GROUP (SAME CASE AS FIG. 6, EIGHT MONTHS LATER).

definite increase in the size of the areas of infiltration, with the development of one or two new areas. At this time positive sputum. This case illustrates the value of stereographic films.

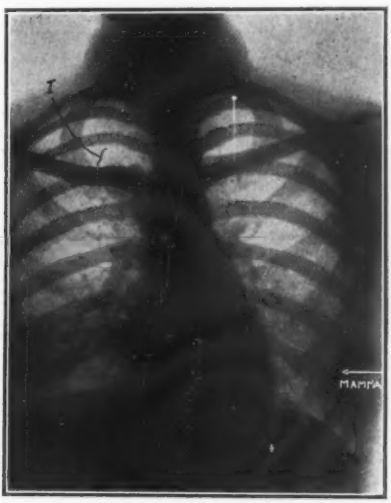


FIG. 8.—EARLY POSITIVE GROUP.

I, infiltration behind clavicle. Stereographically, definite tubercles are seen in this region. Previous hemoptysis. Clinical diagnosis: tuberculosis suspected. Note the shadows cast by the mamma.

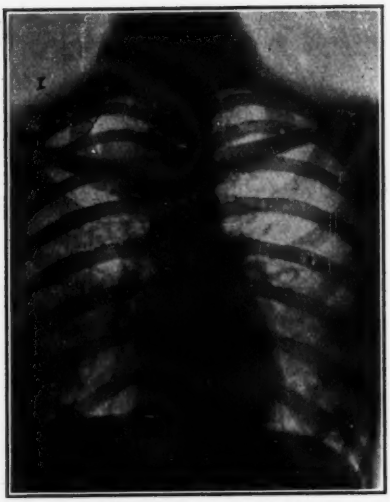


FIG. 9.—EARLY POSITIVE GROUP (SAME CASE AS FIG. 8, FOUR MONTHS LATER).

I, further development of infiltration, right apex. More tubercles to be seen in this region. In the time between the two films there was a recurrence of hemoptysis.

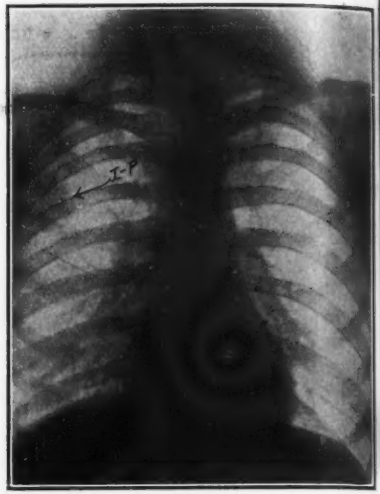


FIG. 10.—EARLY POSITIVE GROUP.

I-P, infiltration, with probably pleurisy rig second *I*, *S*. Tubercles definitely seen stere graphically. Clinical diagnosis: tuberculos suspected. Previous hemoptysis. Reacted subcutaneous tuberculin test (see Fig. 11).

FIG. 11.—SAME CASE AS FIG. 10.

Taken at height of tuberculin reaction. Note definite increase of collateral haziness (collateral inflammatory change) surrounding the focus. *I-P*, plates taken following this reaction revealed this gradually receding in about two weeks, leaving tubercles more definitely seen. Careful technique is necessary to record changes so delicate.

FIG. 12.—NON-TUBERCULOUS GROUP.

A, pulmonary abscess right middle third. Stereo graphically this was seen posteriorly, and ver fied at autopsy. *C*, area of rarefaction, probabl cavity. No tubercles could be definitely see in the diseased area. Note the homogeneous ap pearance and location of the shadow. *S*, sterno cleido-mastoid muscles.

IG. 13.—NON-TUBERCULOUS GROUP.

able bronchiectasis, left base. Note at *B* all half-moon shadows, presumably secretion cavities revealing fluid levels. Profuse foul pectoration.

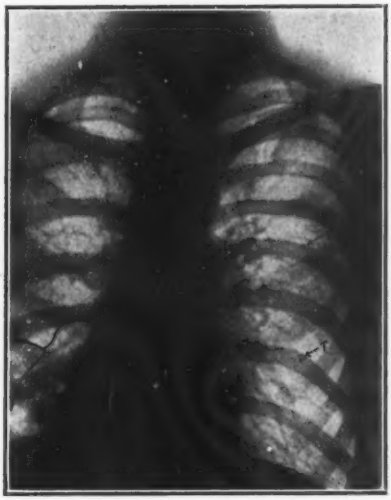


FIG. 14.—NON-TUBERCULOUS GROUP—BRONCHIECTASIS.

Right base at *B* note the location of the condition and the absence of tubercles in this region. However, there were apparently calcified tubercles (*T*) scattered here and there in the parenchymal field in both lungs. Clinical diagnosis: bronchiectasis.

G. 15.—NON-TUBERCULOUS GROUP.

tinomycosis, right base. Note the homoeous character of the shadow and its location. eographically tubercles were not definitely . Note the shadow cast by the pectorales. gnosis proven at autopsy.

FIG. 16.—NON-TUBERCULOUS GROUP—ASPERGILLOSIS (SPUTUM FINDING).

Difficult to exclude pulmonary tuberculosis, though the bilateral distribution with relatively free apices is rare in pulmonary tuberculosis. Shadows not characteristic for tubercle formation. This resembles more fibrosis or connective tissue changes.

linear markings, and heavy homogeneous densities. There are several other descriptive terms used in this connection, many of which have the same meaning. I offer the following terms used in our particular standardization: (1) Exaggeration of lung markings—doubtful or definite. (2) String-like shadows. (3) Mottling — fine or coarse. (4) Areas of rarefaction and annular shadows. (5) Homogeneous densities—localized or general, light-marked. In this positive group it is usually a matter of determining the nature of the pathology rather than the presence of a pathological condition.

Differential Interpretation.

Has pulmonary tuberculosis a shadow complex that makes possible its recognition? In this connection may I cite some experimental work carried on at the Trudeau Sanatorium: A series of ten guinea-pigs were inoculated with tubercle bacilli by the inhalation method. These pigs were sacrificed at three-day intervals, beginning the tenth day after inoculation, two pigs being sacrificed each day. At these times their lungs were taken out of the thorax and inflated to an approximate normal distension and roentgenographed. On the sixteenth day small, rounded, delicate densities were seen on the plate in the parenchymal field. These proved to be tubercles, and on the plate resembled very much the small densities we encounter daily in plates of the chest, with the exception that those in the human being are more clean cut and appear to be older. This experiment was repeated with similar results.

Undoubtedly the possibility of identifying pulmonary tuberculosis lies in our ability to recognize the tubercle and its accompanying changes. The same reasoning may be applied to other pathological conditions in the lung—namely, that they may produce characteristic shadows. Nevertheless, until such time as we are able to accumulate records of enough cases of a given pathological condition, we cannot hope for much in the way of standardization. Many of these pathological conditions seen on the plate are very unlike the shadows produced by the tubercle and tuberculosis, and are accordingly easy to differentiate. Still, in many instances the disease has advanced to such an extent and intensity that identification or differentiation is made most difficult.

Pulmonary abscess many times gives a very classical picture—viz., a localized homogeneous density, with an area or areas of rarefaction, a fluid level, etc. Bronchiectasis or purulent bronchitis, with its heavy markings to the base, rarely with a fluid level in the bronchiectatic cavities, gives also a somewhat familiar picture. Malignancy, having such a variety of forms, gives pictures where description is almost impossible. However, usually we see massive localized shadows

or general homogeneous densities. This may also be the case with other common or rarer forms of pulmonary disease.

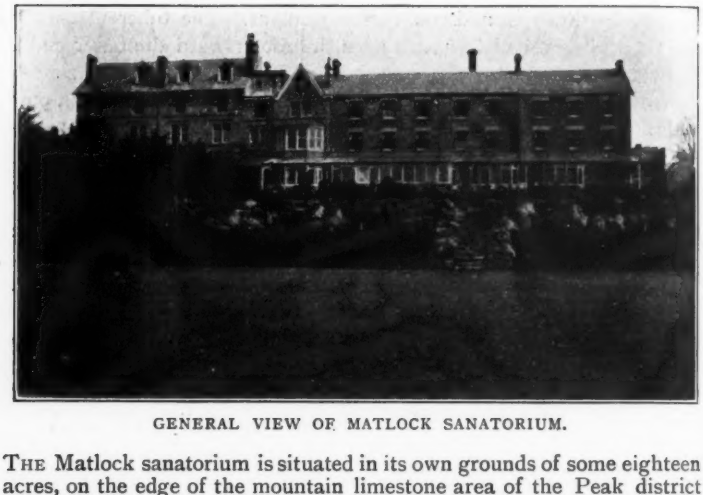
The schema outlined by Schutt seems very helpful in plate interpretation—viz., a division of the lung into three zones: the tuberculous, the doubtful, and the non-tuberculous. The tuberculous zone —that field above a line drawn from the root toward the outer end of the clavicle paralleling the second rib. The non-tuberculous zone—a field at the base of the lung below a line drawn from the root to a point a little above the costo-diaphragmatic angle. The doubtful zone—setting in between the above two zones.

Technical Considerations.

A word or two regarding technique. Stereo-roentgenograms are necessary in practically all instances of radiography of the lungs. Plates should be of such a character that the pulmonary markings can be followed almost to the periphery, and the plate should be free from all blurring caused by movement during exposure. They should not be too dense, as delicate changes are obliterated to some extent by over-exposure and over-development. Roentgenograms revealing a wealth of detail make plate interpretation more easily understood.

ASSOCIATIONS AND INSTITUTIONS.

MATLOCK SANATORIUM.



GENERAL VIEW OF MATLOCK SANATORIUM.

THE Matlock sanatorium is situated in its own grounds of some eighteen acres, on the edge of the mountain limestone area of the Peak district of Derbyshire, at an altitude of over 700 feet. The climate is dry and bracing, with a yearly rainfall of about 30 inches and bright sunshine of some 1,500 hours. The surrounding country is well known for its varied beauty and historic interests; Haddon Hall, Chatsworth, Dove Dale, and Surprise View are within easy distance. The sanatorium is protected from the north by a range of hills. The buildings, including the chalets, are lighted throughout by electricity. There are wide covered verandas, facing south, where patients may rest in the open, with a magnificent view of the surrounding country. Large gardens, lawns for croquet and other games, adjoin. Cinematograph exhibitions are given twice weekly in the recreation-room. The sanatorium is provided with all requirements for modern methods of treatment. There is a fully equipped X-ray plant and a competent staff of resident physicians and nurses. A special feature is made of concurrent treatment-training, carried out by experts under strict medical supervision. Patients undergoing treatment can have the advantage of practical courses of instruction in agriculture, flower, fruit, and vegetable culture, pig, poultry, and bee-keeping, etc. It has been found that, apart from the useful knowledge gained thereby, these courses exert a very beneficial effect on the health of the patients, since becoming interested in the various forms of training, their general health is greatly improved thereby, and their thoughts less centred on their disease. Many patients on leaving the sanatorium take up an outdoor life. Particular attention is paid to the dietary of all patients. The inclusive charge for maintenance, treatment, and training is from six guineas a week, according to the room selected. Further particulars may be obtained on application to the Superintendent, Lieut.-Colonel U. J. Bourke, R.A.M.C. (Retd.), Matlock Sanatorium, Matlock, Derbyshire.

NOTICES OF BOOKS.

THE PRACTICE OF ARTIFICIAL PNEUMO-THORAX.

THE work on "Artificial Pneumo-thorax," originally issued by Dr. Dumarest and Dr. Murard, has now appeared in a second edition. bearing the names of Dr. Dumarest and Dr. Murard. It must be considered one of the most authoritative monographs upon the subject, for it embodies the experience of a French school in which the surgical sides of tuberculosis-therapy have been extensively studied.[1] The authors find that the chief results of statistics which they now produce bear out the findings of the authors of the earlier edition. Dumarest pays a warm tribute to Forlanini, whose follower he has been since 1908, and his book provides a résumé of 265 cases treated since that date by artificial pneumo-thorax. The chapter upon the Pleural Complications of Artificial Pneumo-thorax is to be especially commended. The authors find the frequency of such complications to be 70 per cent. for pneumo-thoraces existing over six months, and, commenting on this somewhat high figure, they observe that in the cases of less than six months' duration the figure is but 37·9 per cent. The authors discuss a new pathogenic classification of pneumo-thoracic effusions, and make out a case for recognition of a benign, non-infective exudate due to pleural trauma; they go so far as to consider that one factor in its production may be the minute traumatisms of molecular bombardment on the part of the gas that is introduced. They also describe an effusion which may be compared with a fixation abscess, due not to infection of the pleura from the lung, but to a metastatic localization, leaning here on observations that, in cases of tuberculosis, there have been found tubercle bacilli circulating in the blood and liable to settle down at a devitalized part, or to be excreted, as for example in the milk. It is suggested that the hypothesis may also cover those cases in which an intestinal localization, with temporary diarrhœa, may complicate the introduction of artificial pneumo-thorax. There also occur pleurisies of a toxic type, free of bacilli; it would appear that such effusions are notably apt to arise, or to increase, at a menstrual period, when the immune defence is believed to be depressed. The care and completeness of the treatment of this important subject are paralleled in the other sections of the book; for example, the all-important questions of pressures and intervals between refills are discussed most helpfully, and a detailed description of apparatus and technique makes the book what its title infers, a practical manual.

[1] "La Pratique du Pneumothorax Thérapeutique." By F. Dumarest and Ch. Murard. Second edition, augmented by F. Dumarest and P. Brette, Hauteville (Ain). Pp. 356. With fourteen radiograms. Paris: Masson et Cie., 120, Boulevard Saint-Germain. 1923. Price 18 Fr. net.

One is naturally interested in the statistics of results; these are 52 per cent. immediately good and 23 per cent. maintained good after ten years. The classified bibliography, extending to thirty-three pages of small print, is at once an indication of the great amount of study that has been given to artificial pneumo-thorax and a tribute to the thoroughness of its treatment in this book. The volume thoroughly succeeds in its purpose, and is to be recommended strongly as a textbook of the principles and practice of artificial pneumo-thorax.

R. G. BANNERMAN, M.D.

OPOTHERAPY.

Dr. Lematte has provided busy practitioners with a concise, informing little handbook regarding the dosage and method of administration of glandular products.[1] The first part deals with the preparation of extracts, powders, and sterilized solutions for injection, mentioning the fact that powders do not always represent all the active principles of the organ, and that for oral administration standardized solutions of constant composition, representing all the soluble elements, should be preferred. The second part reviews the various organs used in opotherapy and gives their average doses. In the third part is to be found the clinical application of the contents of the preceding chapters. The opinions of authorities who employ pluriglandular therapy are contrasted with those of others who prefer to study the action of one gland at a time, adding other preparations, one by one, if the desired results are not at first attained. Functional endocrine disorders are discussed under their appropriate headings, and a special chapter is contributed by Dr. A. Marie on the efficacious results of opotherapy in the psychopathies. A survey of the book reveals that there are few maladies, from angina to acromegaly and from obesity to oliguria, in which successes have not been claimed from the administration of endocrine products. The collection and collation of further results will alone show whether, along certain lines at present ill-defined, such claims are justifiable. There remains, however, a strong basis of support for the use of the thyroid gland as an endocrine controller and regulator in many diverse conditions. So far as it goes, this book can be recommended as a condensation of modern Gallic views on the subject.

J. F. HALLS DALLY, M.D.

SUNLIGHT AND HEALTH.

Dr. C. W. Saleeby is an enthusiastic and persistent advocate of the application of sunlight in the prevention and arrest of disease, and in his latest work he has presented the substance of recent lectures and articles in a series of chapters, which should appeal not only to members of the medical profession, but to all thoughtful men and women, and especially those who are engaged in anti-tuberculosis work.[2] The volume provides a popular exposition of our present understanding of the phenomena on which depend measures of helio-

[1] "L'Opothérapie du Practicien." Par L. Lematte, Docteur en Pharmacie. Pp. 228. Paris: A. Maloine et Fils. 1923.

[2] "Sunlight and Health." By C. W. Saleeby, M.D., Ch.B., F.Z.S., F.R.S.E. With an Introduction by Sir William M. Bayliss, M.A., D.Sc., F.R.S. Pp. xiv + 178. London: Nisbet and Co., Ltd., 22, Berners St., W. 1. 1923. Price 5s. net.

hygiene and helio-therapy. There are references to the work of Finsen, Rollier, Gauvain, and other pioneers, and interesting accounts of the enterprises being carried out at Leysin, Alton and Hayling, Carshalton, and elsewhere. There are suggestive chapters on Sunlight and Bovine Tuberculosis, Sunlight and Milk, Sunlight and Childhood, the School in the Sun, Sunlight and Tuberculosis, Modern Sun-Worship. Dr. Salceby has also much to say in regard to smoke abatement and the prevention of atmospheric pollution. The work is one which will appeal to all seeking to stay the scourge of tuberculosis and striving to apply scientific discoveries in the furtherance of measures making for human betterment.

Medical Officers of Health and others interested in smoke abatement will find detailed information regarding the combustion problem and measures for the mitigation of the smoke nuisance in Mr. Clinch's recently issued practical handbook.[1] The author's main aim has been to demonstrate to mill-owners and managers, foremen and other workmen, how smoke emission can be prevented. The elementary physical facts and fundamental chemical principles involved in the problem are lucidly explained, and then follow practical chapters on Stoker's Work, Draught, Flue Gases, Economisers, Boilers, and Mechanical Stokers. The concluding chapters deal with the law relating to the emission of smoke. The book is plentifully illustrated, and altogether provides material of exceptional interest and value, which all students and advocates of smoke abatement will know how to appreciate.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

Dr. Allen K. Krause, Director of the Dows Tuberculosis Research Fund and Physician-in-Charge of the Phipps Tuberculosis Dispensary of Johns Hopkins University and Hospital, has published in attractive volume form a collection of suggestive papers—reprints, for the most part, from the *American Review of Tuberculosis*, of which he is editor.[2] These eight communications are impressive presentations of modern conceptions and doctrines relating to tuberculosis, anti-tuberculosis measures, medical education in tuberculosis, and the elements of an adequate tuberculosis programme. We would particularly commend the essay on "Rest in the Treatment of Tuberculosis" and "Sputum Infection of Children." From the latter we reproduce the concluding summary: "We human beings are open to tubercle bacilli of both bovine and human origin. Our chances of being infected are made greater from human sources. In most instances the original human source is sputum. This may come to us as part of the dust which we receive

[1] "The Smoke Inspector's Handbook, or Economic Smoke Abatement." By Hubert G. Clinch, M.R.San.I., M.I.H., Chief Smoke Inspector, Halifax County Borough. With a Foreword by Cyril Banks, M.B., B.S., D.P.H., Medical Officer of Health, County Borough of Halifax. Pp. xv+136 and 60 Figs. London: H. K. Lewis and Co., Ltd. 1923. Price 7s. 6d. net.

[2] "Rest and Other Things: A Little Book of Plain Talks on Tuberculosis Problems." By Allen K. Krause, A.M., M.D., Associate Professor of Medicine, Johns Hopkins University, Lecturer at the Trudeau School of Tuberculosis, etc. Pp. 159. Baltimore, U.S.A.: Williams and Wilkins, Company. 1923. Price $1.50 net in the United States, Canada, Mexico, Cuba; $1.60 net in other countries, post paid.

through nose and mouth, and in droplets of spray cast at us by the diseased and received by us as is the dust. It may be received with contaminated food and swallowed. Children, arrived at an age which takes them outdoors to play, become peculiarly exposed to another source of infection: this is crude sputum, picked up by their hands and carried to their mouths. The result is a preponderance of infection and disease of the lymph nodes of the neck. The indoor and direct contact hypotheses of tuberculous infection have been greatly over-emphasized; they, no doubt, suffice in part. But there is every probability that outdoor indirect infection—through sputum—makes up a large proportion of the total number; in children, perhaps, the greater part." Every student of the tuberculosis problem should read Dr. Krause's wise and helpful volume.

A highly original and helpful manual on "Tuberculosis Recovery Records" has been prepared by Dr. G. B. Webb and Dr. C. T. Ryder, of Colorado Spring.[1] This "little almanac of recovery" as the authors term it, has been prepared for the guidance of tuberculous patients and to provide them with means for registering on the charts provided data relating to temperature, pulse rate, weight, etc. The following sound advice is given: "Be patient, be cautious, be serene. Consider your exile temporary, and spare no pains and sacrifices to bring it to a happy end. Never lose interest in life, for life loves those who love her." The hygiene and technique of recovery is simply and serviceably presented in a way in which patients will appreciate. Above and below the charts appear quotations from classical and modern writers which will afford suggestions and stimulus and wise people will know how to use them for their own betterment.

Dr. F. W. Wittich, of Minneapolis, is the author of a helpful little guide-book which has been written for tuberculous patients.[2] The author has himself been a patient and has had extensive experience of sanatorium and dispensary work. Here are the concluding words of the Preface: "To conquer tuberculosis in the shortest possible time, the patient must eat well in order to nourish his body; he must be a real optimist to keep his mind pleasantly occupied; he must own a great fund of common-sense so as to go on steadily towards recovery without being led astray by quack medicines and poor advice; he must possess patience in unlimited abundance to prevent his growing weary of the long, long siege; he must enjoy being courageous so as to work bravely on in the right way, even though his progress may seem but slow; he must have superlative will-power which compels him to fight every day —for he must fight, if he will win." Dr. Wittich, in his modest little volume, seeks to show how a winning war should be waged.

Dr. McDugald McLean has prepared a serviceable little exposition

[1] "Recovery Record for Use in Tuberculosis." By Gerald B. Webb, M.D., Consulting Physician Cragmor Glockner and Sunnyrest Sanatoria, etc., and Charles T. Ryder, M.D., of the Colorado School of Tuberculosis. Pp. 81, and 108 chart-sheets. New York City: Paul B. Hoeber, Inc. 67-69, East 59th Street. 1923. Price $2.00.

[2] "Information for the Tuberculous." By F. W. Wittich, A.M., M.D., Instructor in Medicine and Physician-in-Charge, Tuberculosis Dispensary, University of Minnesota Medical School, etc. With a Foreword by L. G. Rowntree, M.D., Professor and Chief of the Department of Medicine, University of Minnesota. Pp. 150. St. Louis. U.S.A.: C. V. Mosby Company, 508, North Grand Avenue. 1919. Price $1.50 net.

on tuberculosis for patients and their friends.[1] His aim, as he indicates in the Foreword of his unpretentious and really very helpful manual, has been to provide "a summary of the best opinion and advice of our leading specialists, digested by six years of experience as a patient and assistant, and a careful study of the current literature and standard texts on the subject." The work is addressed primarily to American readers, but we would commend it to the consideration not only of patients of this country, but to medicals and others who are seeking to carry out anti-tuberculosis work by educational measures.

Sir Arthur Shipley has just issued through the Syndics of the Cambridge University Press a charming introduction to biological studies under the title of "Life."[2] The author has sought to emphasize the unity of life, whether it be plant life or animal life, and the interrelation of living organisms one with another and with their surroundings, and he has succeeded in producing a living book on living things which furnishes just the stimulus, revelation, vision, and guidance which the young student needs, and often lacks, in his entry on medical and other biological studies. The Master of Christ's College has produced a remarkable book, and one which every thoughtful man and woman may peruse with delight and profit. Although dealing with the findings of science and the interpretations of scientific workers, there is evidence on almost every page of the spirit of the seer and the poet, and all is marked by literary grace and power.

A new edition has recently appeared of the well-known and justly valued handbook on "Hygiene and Public Health," which bears the names of Parkes and Kenwood.[3] When a work has reached its seventh edition, as is the case with this popular member of "Lewis's Practical Series," it may well be considered to be beyond praise or blame of any reviewer. The object, therefore, of this notice is to direct the attention of Medical Officers of Health and all others interested in the study of public health problems to the appearance of this fresh and up-to-date issue of an old favourite textbook. The work has not only undergone thorough revision, but has been enlarged. There is an excellent section on Tuberculosis, in which generally accepted views are concisely summarized. The following statement is of interest: "During the years of the Great War—1916 to 1918—the death-rate from tuberculosis rose considerably in England and Wales, but affected principally in its greater mortality females from twenty to thirty-five years of age. It seems probable that this increase of mortality was due to the large numbers of young women who came under industrial conditions in the manufacture of munitions of war, and being for the most part unaccustomed to sedentary work in factories,

[1] "Tuberculosis: A Primer and Philosophy for Patient and Public." By McDugald McLean, B.A., B.Sc. (Oxford), M.D. (Johns Hopkins). Pp. 168, with portrait frontispiece. New York City: Offices of the *Journal of Outdoor Life* Publishing Company, 370, Seventh Avenue. 1922. Price $1.00.

[2] "Life: A Book for Elementary Students." By Sir Arthur E. Shipley, G.B.E., F.R.S., Master of Christ's College, Cambridge. Pp. xvi+204, with 70 figs. Cambridge: The University Press. 1923. Price 6s. net.

[3] "Hygiene and Public Health." By Louis C. Parkes, M.D., D.P.H., Consulting Sanitary Adviser to H.M. Office of Works, etc., and Henry R. Kenwood, C.M.G., M.B., F.R.S.E., D.P.H., Chadwick Professor of Hygiene in the University of London, etc. Seventh edition. Pp. xi+783, with 90 figures. London: H. K. Lewis and Company, Limited, 136, Gower Street, and 24, Gower Place, W. 1. 1923. Price 20s. net.

too long hours, and the stress and fatigue of mechanical work, suffered thereby in health, and offered less resistance to the invasion of the tubercle bacillus, whilst more exposed to its onset. The excessive mortality amongst young adult women reached its maximum in 1918, but declined considerably in 1919, as the demobilization of men in the Army led to increasing replacement of women by men in all industrial occupations." There are informing sections on Sanatoria, Colonies, and Dispensaries for tuberculous cases. The questions of bovine tuberculosis and tuberculous milk are effectively presented. The volume is an impressive one and its weight is considerable, but the printing and general format are excellent.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

Dr. Henry A. Ellis has just published under the somewhat sensational title of "How shall I be Saved from Consumption?" a handbook primarily intended for sufferers from pulmonary tuberculosis and their friends.[1] The author, who has had considerable experience in the management of consumptives at home and abroad, claims that "in tuberculin there already exists an almost infallible preventive of tubercle to those who may be threatened or who are in danger of a subsequent attack, provided it is administered before an attack has undermined the natural resistance." The work is divided into three parts—the Problem, the Treatment, the Environment—and is written in clear, non-technical language, conveying very helpful information in an attractive form. There is much in this direct, outspoken, dogmatic volume which will be of service to patients and also to tuberculosis officers and others engaged in measures seeking the instruction of tuberculous subjects and the enlightenment of the public generally.

Dr. W. M. Crofton, who for long has been an enthusiastic advocate of immunization treatment for tuberculosis, has issued a booklet on "The Treatment of Tuberculosis," which describes his method of employing human tubercle bacillus solution (H.T.S.), which is claimed to be "the most powerful tubercle bacillus antigen yet produced."[2]

The 1924 issue of the "'Wellcome' Photographic Exposure Calculator, Handbook, and Diary"[3] should be in the possession of every photographer, both amateur and professional. Many medical officers connected with sanatoria, as well as their patients, find in photography a pursuit and hobby which is useful, educative, and recreational, and all such should certainly possess and study this most practical of pocket companions.

Most sanatoria now possess some form of motor, and an automobile is viewed as indispensable for the conduct of a doctor's practice. All

[1] "How shall I be Saved from Consumption?" By Henry A. Ellis, B.A., M.B., Ch.B., Assistant Physician, Margaret Street Hospital for Consumption, London. Pp. 190. London: George Allen and Unwin, Ltd., Ruskin House, 40, Museum Street, W.C. 1. 1923. Price 6s. net.

[2] A copy of Dr. Crofton's booklet, with particulars regarding use of his H.T.S., can be obtained on application to C. J. Hewlett and Son, Ltd., 35-42, Charlotte Street, E.C. 2.

[3] The "'Wellcome' Photographic Exposure Calculator, Handbook, and Diary for 1924" is published by Burroughs Wellcome and Co. Price 1s.

who are responsible in any way for the safe, economic, and efficient care and running of a car will be well advised to study the "Ford Manual."[1] It consists of 140 questions and answers relating to the car and its operation, and the manual is effectively illustrated.

"Country Cottages and How to Build Them," by Captain G. C. Clark, founder and late editor of *The Ideal Home*, contains a series of artistic designs, with floor plans, cubical contents, and suggested specification and estimates regarding present cost of construction.[2] This suggestive and informing booklet should be helpful to many patients desiring to erect an inexpensive yet hygienic and comfortable habitation.

Tuberculous patients and others desiring to construct an inexpensive hygienic home will find many suggestions in "The *Daily Mail* Bungalow Book."[3]

Under the somewhat ambiguous title of "T.V.A. Annual," the Manitoba Branch of the Tuberculous Veterans of Canada have published an attractive, informing, illustrated, popular volume, which should further antituberculosis endeavour on sound lines.[4]

Medical advisers and dispensers and all interested in the use of drugs should make a point of studying Dr. Thomas Stephenson's brochure on chemical, physical, and therapeutic incompatibility, consisting of a reprint of articles from *The Prescriber*.[5] There is a service table of incompatibilities alphabetically arranged.

The Ministry of Health has recently issued a preliminary report on hydrogen cyanide as a fumigating agent, prepared by Drs. P. G. Stock and G. W. Monier-Williams.[6]

Messrs. Schall and Son have just issued an elaborate, informing, illustrated, up-to-date work on the medical applications of X-rays.[7] This should be studied by all responsible for radiological work among tuberculous subjects.

A seventh edition of the "Medical Who's Who" is being prepared with the approval and co-operation of the General Medical Council, and it will be well if tuberculosis officers, medical superintendents of sanatoria, etc., arrange for entry in this officially approved reference work.[8]

[1] The "Ford Manual" is published by Ford Motor Co. (England), Ltd., Trafford Park, Manchester, 1923.

[2] "Country Cottages and How to Build Them," by Captain G. C. Clark, is issued from *Country Homes* Offices, 526, Oxford Street, W. 1. 1923. Price 1s. 6d. net.

[3] "The *Daily Mail* Bungalow Book" contains reproductions of the best designs entered for the *Daily Mail* Architects' Competition for Labour-Saving Bungalows, and is published by the Associated Newspapers, Ltd., Carmelite House, E.C. 4. Price 5s. net.

[4] Particulars regarding the constitution, work, and publications of the Tuberculous Veterans' Association of Canada can be obtained on application to Dr. David A. Stewart, Medical Superintendent, Manitoba Sanatorium, Ninette, Canada.

[5] "Incompatibility in Prescriptions and How to Avoid It." By Thos. Stephenson, D.Sc., Ph.C., F.R.S.E., F.C.S., editor of *The Prescriber*. New edition. Pp. 32. Edinburgh: *The Prescriber* Offices, 6, South Charlotte Street. 1924. Price 1s. 6d. net.

[6] Reports on Public Health and Medical Subjects, No. 19: "Preliminary Report on the Use of Hydrogen Cyanide for Fumigation Purposes." By P. G. Stock, C.B., C.B.E., M.B., F.R.C.S.E., and G. W. Monier-Williams, O.B.E., M.C., M.A., Ph.D., F.I.C. Pp. 84, with illustrations. London: H.M. Stationery Office. 1923. Price 2s. 6d. net.

[7] "X-rays: Their Origin, Dosage, and Practical Application." By W. E Schall, B.Sc., F.Inst.P. Pp. 119. Bristol: John Wright and Sons, Ltd., Stone Bridge. 1923. Price 5s.

[8] The new edition of the "Medical Who's Who" is being issued by the Grafton Publishing Company, Ltd., Chichester House, Chancery Lane, W.C. 2.

All desirous of visiting Switzerland with a view to participation in winter sports should procure a copy of the 1924 Year Book of the Public Schools Alpine Sports Club.[1]

A concise epitome of essential facts relating to diseases of the blood has recently been issued for the use of medical advisers by Messrs. Battle and Co.[2]

Mr. Boyle has prepared an illustrated handbook on the ventilation of buildings.[3] It is compiled from Reports of Royal Commissions and Select Committees on Ventilation appointed by the Houses of Parliament and from other authorities. Architects, builders, medical advisers, and all interested in hygienic housing should secure a copy.

The Washington Bureau of Education are now publishing various series of illustrated manuals dealing with health education, school health studies, physical education, etc., which will be of considerable service to Medical Officers of Health, school doctors, and others seeking to develop a health conscience among British citizens.[4]

Volume xlvi. of "Studies from the Rockefeller Institute" consists of a remarkable collection of reprints of records of original researches in pathology, bacteriology, biophysics, chemistry, experimental surgery, general physiology, and records relating to cases in the hospital of the Rockefeller Institute.[5]

[1] "The Public Schools Alpine Sports Club Year Book, 1924," is issued from the headquarters, 2, Albany Courtyard, Piccadilly, W. 1.

[2] "The Blood and its Diseases." By Henry Irving Berger, M.D. Seventh edition. Pp. 22. St. Louis, Mo., U.S.A.: Battle and Co., 4026-28, Olive Street.

[3] "The Ventilation of Public Buildings," by Robert Boyle, is published by Robert Boyle and Sons, 64, Holborn Viaduct, E.C. 1.

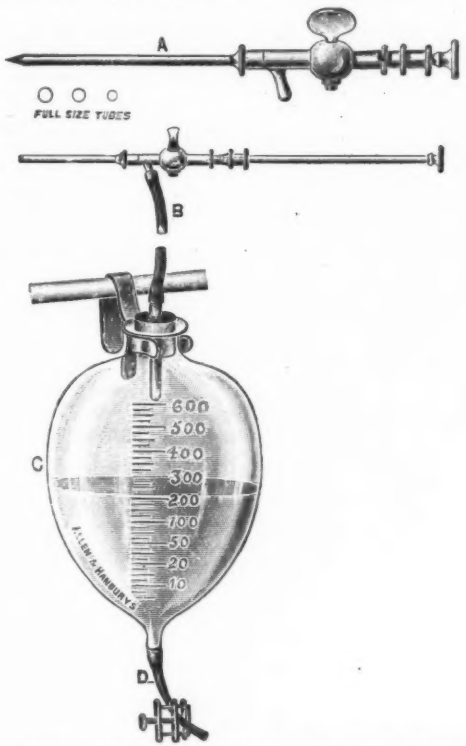
[4] The health education publications of the U.S.A. Bureau of Education are issued from the Department of the Interior, Washington. Usual price: single copy, 5 cents.

[5] "Studies from the Rockefeller Institute" (Reprints). Vol. xlvi. Pp. 684, with tables, charts, and plates. New York: The Rockefeller Institute for Medical Research. 1923.

PREPARATIONS AND APPLIANCES.

A NEW ASPIRATOR FOR ARTIFICIAL PNEUMOTHORAX.

Dr. L. S. P. Burrell has sent us particulars of an aspirator for use in the production of artificial pneumothorax.[1] The chief features are indicated in the accompanying figure. The appliance consists of a Potain trocar and canula, A (which has been made in three sizes),



THE BURRELL ASPIRATOR FOR ARTIFICIAL PNEUMOTHORAX.

and a bottle, C. The top opening in the bottle is fitted with a rubber cork perforated by a glass tube, which is connected with the needle by a rubber tube, B. The bottom opening is fitted with a rubber tube, D, which can be clamped. To use the apparatus the tube D is clamped and the bottle partially filled with water. The cork is put on and the

[1] The New Aspirator for Artificial Pneumothorax can be obtained from Allen and Hanburys, Ltd., 48, Wigmore Street, W. 1.

bottle hung at the side of the bed. The needle is then put into the pleural cavity, the trocar withdrawn beyond the stopcock, which is then turned off. The tube D is then unclamped, and the water running out of the bottle produces a suction which draws the liquid from the pleural cavity. The trocar can be detached from the needle beyond the stopcock, and if this is done a specimen of the effusion can be obtained for analysis. The chief advantages claimed for the apparatus are: 1. It is simple and inexpensive. 2. The physician does not have to occupy himself with pumps, etc. When once started it works itself, and makes it quite easy to do a gas replacement single-handed. 3. The liquid is not removed by a series of jerks, but the flow is even. During a gas replacement it is possible to keep the intrapleural pressure absolutely constant throughout.

A NEW ELECTRIC MOUTH AND THROAT LAMP.

The accompanying illustration gives a general idea of the recently introduced "STERLING" ELECTRIC MOUTH AND THROAT LAMP,[1] which promises to be of considerable assistance to all medical practitioners. Certainly to tuberculosis officers engaged in domiciliary work, school medical officers, and all medical advisers engaged in active clinical work it will serve as an invaluable pocket companion. The dry battery is contained in what may be called the handle of the lamp. Connection is only made when the tongue is being depressed, and thus a most

THE STERLING ELECTRIC MOUTH AND THROAT LAMP.

economic use of the current is insured. One hand is left free for taking swabs or other manipulations. An excellent illumination of all parts of the mouth is obtained. A simple arrangement provides for the use of a metal tongue depressor which can be readily disinfected, or a wooden depressor can be employed for each case and then burnt. This aid to effective clinical service only needs to be used to be appreciated.

[1] The Sterling Electric Mouth and Throat Lamp is made by the Sterling Corporation, 16, Wigmore Street, W. 1.

HYGIENIC AND THERAPEUTIC SPECIALITIES.

The hygiene of the mouth is an essential matter in the management of all tuberculous patients. Oral sepsis and foul dentures are frequently met with in consumptive and other patients. Wearers of artificial teeth should be acquainted with the Tiffin DENTABATH.[1] This consists of a metal receptacle the bottom of which contains an antiseptic tablet. After the denture is thoroughly brushed it is placed in the Dentabath, covered with cold water, and allowed to remain overnight.

The Central Oil Company are now providing an excellent series of POLISHES for the cleaning of floors, metal work, boots, etc., and these reliable, hygienic, and inexpensive preparations are likely to be of service in connection with the work of sanatoria as well as for ordinary domestic duties.[2]

Modern knowledge regarding the rôle of endocrines in the maintenance of health and the prevention of disease indicates that in the treatment of tuberculosis and associated disorders much assistance may be rendered by a discriminating use of certain pluriglandular products. TABLETS OF ADRENO-SPERMIN CO. are said to be of considerable service in dealing with the toxic condition resulting from tuberculous invasion and the consequent hypo-adrenia and asthenia. Parathyroid has also been advocated as a helpful agent in dealing with tuberculosis in the incipient stage.[3]

Calcium lactate has for long found favour in the treatment of chilblains, a morbid condition common among tuberculous subjects of all ages undergoing sanatorium management. It is now available in association with parathyroid substance as Squire's ELIXIR OF PARATHYROID WITH CALCIUM. The preparation deserves thorough testing.[4]

THE TRIANGLE GAS AND OIL ECONOMIZER[5] is an appliance which will be appreciated in many hospitals, sanatoria, and homes for individual patients, etc. Three articles will cook simultaneously on one burner. It conserves and distributes the heat evenly; hot handles and burnt food are thus eliminated. It can be used on any gas or oil cooking stove; and with the addition of legs it can also be used on gas-rings or any make of single-burner oil stove, such as Beatrice, Primus, and the like. No fixing is required. It will hold any size vessel up to twelve pints. Fumes are prevented, as only one burner is lit instead of the usual three. This shows a saving of 50 per cent. of gas or oil. The article is made of the best sheet steel, and will last for at least five years with ordinary care. Its work is guaranteed.

[1] The Tiffin Dentabath is supplied by most chemists, price 4s. 6d., or by Tiffin's Dentabath, Ltd., 37, King Street, South Shields. Price 4s. 10d. post free.

[2] Particulars of the specialities supplied by the Central Oil Company can be obtained on application to the Central Offices, 70, Queen Square, Bristol.

[3] Particulars regarding "adrenal support" and the use of pluriglandular formulas can be obtained on application to Endocrines Limited, 72, Wigmore Street, W. 1.

[4] Particulars of the Elixir of Parathyroid with Calcium can be obtained on application to Squire and Sons, Ltd., 413, Oxford Street, W. 1.

[5] The Triangle Gas and Oil Economizer can be obtained from H. R. Hammond, Domestic Economy Specialist, 100, Union Street, S.E. 1. Description and price will be found in an advertisement on another page.

THE OUTLOOK.

TUBERCULOSIS AND THE CHILD.

SIR GEORGE NEWMAN, in his last report as Chief Medical Officer of the Board of Education,[1] deals with tuberculosis in childhood, and has an informing section on open-air education. The following table is given summarizing the returns furnished by Local Education Authorities throughout the country in respect of the number of children ascertained during 1922 to be suffering from pulmonary tuberculosis or from crippling due to tuberculosis:

	Attending Public Elementary Schools.	Attending Certified Special Schools.	In other Institutions.	Not at School.	Total.
Pulmonary tuberculosis	12,177	1,091	1,763	4,766	19,797
Crippling due to tuberculosis	5,603	2,220	1,655	2,239	11,717

A valuable table in the appendix indicates the mortality at several ages from all forms of tuberculosis. The deaths under one year per 1,000 births are given as 4·14, and between one and five years the death-rate per 1,000 is stated to be 1·67. Sir George Newman says: "It may be assumed that the children suffering from pulmonary tuberculosis in attendance at a public elementary school were not in a state likely to favour the spread of disease, otherwise they would have been excluded under the provisions of the code. It is the 7,620 not in attendance at the ordinary schools of whom it may be presumed that they are suffering from the disease in an active form, and this number compared with the school population yields a result of about 1·5 per 1,000. As regards cripple children, the returns for 1922 from the areas of the 317 Local Education Authorities in England and Wales show that there were approximately 35,477 cripple children of school age, representing from $\frac{1}{2}$ to 1 per cent. of the entire school population. Of the 35,477 cripples there were 11,717 in whom the crippling was due to tuberculosis. Among the 152,100 defective children of school age in England and Wales in 1922 there were cases of pulmonary tuberculosis 20,000, and tuberculosis cripples 12,000." As regards open-air education Sir George Newman says: "Education under open-air conditions has in recent years been a fruitful field for experiment, and the almost invariable result is that the experiment has fully justified itself." The principal forms of open-air school are: (1) Classes in the Playground of Public Elementary Schools; (2) Classes in the Public Parks and Open Spaces; (3) School Journeys; (4) Holiday or School Camps;

[1] "The Health of the School Child: Annual Report of the Chief Medical Officer of the Board of Education for the Year 1922." Pp. 163. London: H.M. Stationery Office, Imperial House, Kingsway, W.C. 2. 1923. Price 1s. 6d. net.

(5) Open-air Classrooms; (6) Open-air Day Schools; (7) Residential Open-air Schools of Recovery, of which 25 are "approved," with accommodation for 1,535 children.

NOTES AND RECORDS.

Under the auspices of the Royal Institute of Public Health, 37, Russell Square, London, W.C. 1, a free course of lectures on tuberculosis will be delivered in the Lecture Hall of the Institute on Wednesdays at 4 p.m., as follows: January 16: "Tuberculosis: How and When is it an Infective Disease?" By Prof. S. Lyle Cummins, C.B., C.M.G., M.D., David Davies Professor of Tuberculosis in the University College of South Wales and Monmouth. January 23: "The Organization and Administration of County Schemes for the Prevention of Tuberculosis." By Dr. G. Lissant Cox, Chief Tuberculosis Officer for the County of Lancashire. January 30: "Heliotherapy and Open-Air Treatment." By Sir Henry Gauvain, M.D., Medical Superintendent, Lord Mayor Treloar Cripples' Hospital, Alton and Hayling Island. February 6: "The Classification of the Symptoms of Pulmonary Tuberculosis, with Special Reference to the Early Diagnosis of the Disease." By Dr. S. Vere Pearson, Physician, Mundesley Sanatorium, Norfolk. February 13: "Settlements for Tuberculosis Cases." By Dr. P. C. Varrier-Jones, Hon. Medical Director, Cambridge Tuberculosis Colony, Papworth. February 20: "The Infectivity of Tuberculosis and the Problem of the Advanced Consumptive." By Dr. Marcus S. Paterson, Medical Superintendent, Colindale Hospital, Hendon. February 27: "The Rôle of the Laboratory in the Solution of the Tuberculosis Problem." By Dr. A. C. Inman, Superintendent, Pathological Laboratory, Brompton Consumption Hospital. March 5: "Difficulties in the Campaign against Tuberculosis." By Dr. B. T. J. Glover, Chief Assistant Tuberculosis Officer, City of Liverpool. March 12: "Some Aspects of the Tuberculosis Problem in an Industrial City." By Dr. G. B. Dixon, Chief Tuberculosis Officer, City of Birmingham.

The Tuberculosis Society will hold the following meetings at Margaret Street Hospital, Margaret Street, W. 1, at 8 p.m.: January 18: "Tuberculosis Work in England." By Dr. A. S. MacNalty, of the Ministry of Health. February 15: "Artificial Pneumothorax as I see it To-day." By Dr. Clive Riviere. March 21: "Tuberculosis Work of the Ministry of Pensions: Administrative and Clinical." By Dr. G. Basil Price, C.M.G., and Dr. Alex. Sandison. April 18: A provincial meeting, particulars of which will be announced later. May 16: "Tuberculosis Work in America." By a member of the National Tuberculosis Association of America. On June 20 the Annual Meeting will be held. Further particulars may be obtained from the Hon. Sec., Dr. F. J. C. Blackmore, 138, Herbert Road, Woolwich, S.E. 18.

The Midland Tuberculosis Sub-Group of the Society of Medical Officers of Health announces the following programme of lectures: January 26: Presidendial Address: "Types of Pulmonary Tuberculosis in Children of School Age." February 16: "The Tuberculoses that are due to Milk." By Prof. John Robertson, C.M.G., O.B.E. March 24: "Some Remarks on the Initial Symptoms in 3,000 Cases of Pulmonary Tuberculosis." By Dr. Campbell. April 26: "Influence

of Rest in the Treatment of Pulmonary Tuberculosis." By Dr. Boddington. Further particulars from the Hon. Sec., Dr. C. W. Sharpley, 16, Montague Road, Edgbaston.

The University of Wales announces that in connection with the Welsh National School of Medicine an examination for the Tuberculous Diseases Diploma of the University of Wales will be held on January 2, 3, and 4. Particulars relating to the syllabus of work for the Diploma and conditions of admission to the examination may be obtained on application to the Registrar, Cathay Park, Cardiff.

Under the title of "Fighting the White Scourge: the Spahlinger Treatment of Tuberculosis," there appeared in the *Illustrated London News* for December 8, 1923, an illustrated article giving portrait of M. Henri Spahlinger and his institute at Carouge, near Geneva.

Sir Robert Philip's address on "The Actual Position of the Tuberculosis Problem of To-day" has been issued in booklet form.[1]

The Ministry of Health have just issued Circular 465 dealing with the "After-Care of Tuberculous Patients," and also a tabular statement regarding "Costs at Residential Institutions" for the treatment of tuberculosis. Memorandum 286 deals with the "Co-ordination of the Work of Tuberculosis Officers and Insurance Practitioners in Relation to the Public Treatment of Tuberculosis."

The American Public Health Service is now publishing a monthly periodical, *Venereal Disease Information*, which provides in concise form up-to-date information regarding the development of venereal disease work.[2] We hope it may be possible to issue a somewhat similar official monthly dealing with tuberculosis.

Crooksbury Sanatorium, Farnham, Surrey, which was originally designed and used for private patients, has for some years been a centre exclusively for cases under the Health Act. Recently the sanatorium has reverted to its former management, and having been redecorated and refurnished, is now available for private patients. The Medical Superintendent is Dr. F. R. Walters.

Many British writers on tuberculosis continue to use the words "tuberculous" and "tubercular" in a haphazard fashion, and even in official communications there is no uniformity. It may be well therefore to remind our readers that as far back as 1906 the American Association for the Study and Prevention of Tuberculosis at its annual meeting approved the following resolution: that "in the interest of clearness and uniformity of nomenclature the Association shall employ in its official publication the term *tuberculous* to refer to lesions or conditions caused by the tubercle bacillus, and the term *tubercular* to describe conditions resembling tubercles, but not caused by the tubercle bacillus." It would be wise if British writers on tuberculosis would adopt American custom in this matter.

[1] "The Actual Position of the Tuberculosis Problem To-day." By Professor Sir Robert Philip, M.D., LL.D., P.R.C.P.E. Pp. 36. Published by the National Association for the Prevention of Tuberculosis, 20, Hanover Square, W. 1.

[2] *Venereal Disease Information* is issued by the United States Public Health Service for use in its co-operative work with the State Health Departments, and is published by the Government Printing Office, Washington.